U. S. DEPARTMENT OF COMMERCE

CIVIL AERONAUTICS JOURNAL

ISSUED TWICE MONTHLY BY THE

CIVIL AERONAUTICS ADMINISTRATION

DURHAM, N. C.

VOLUME 2 WASHINGTON, DECEMBER 1, 1941 NUMBER 23

Proposal Trims Flying Time for Nonspin Planes

A proposal to reduce the dual and solo flight experience requirements in cases where a pilot has been trained exclusively on two-control nonspinnable airplanes has been made by the Civil Aeronautics Administration.

The proposal, which would amend Parts 20 and 50 of the Civil Air Regulations, is under consideration by the Civil Aeronautics Board. It was made after the Administrator of Civil Aeronautics had conducted a pilot training research program, using two-control nonspinnable airplanes with nose-wheel type landing gear.

As a result of this program, it was determined that pilots trained on this type of equipment should attain the desired standards of proficiency and safety with fewer hours than those trained on airplanes capable of spinning and not having nose-wheel type landing gear. It is proposed to allow a student pilot to solo such aircraft after 5 hours of dual instruction. The present requirement is 8 hours for conventional aircraft. It is also proposed to allow an applicant for a private pilot certificate limited to the operation of such aircraft to submit his application with the showing of 25 hours of solo flying time, instead of 35 as at present for conventional type of aircraft.

Objectives Outlined

The objective of the research program was twofold. First, it sought to determine the average number of hours of flight training required in two-control nonspinning airplanes with nose-wheel type landing gear (a) prior to first solo, (b) necessary to assure a degree of competency in this general type of airplane equivalent to that required of a private pilot in a conventional plane. Second, it sought to determine the average number of hours of flight training in a conventional airplane required subsequent to training in a two-control nonspinning airplane with nose-wheel type landing gear (a) prior to first solo in a conventional plane, (b) necessary to pass a private pilot flight examination in a conventional airplane.

The program was conducted in three certificated flying schools. Each gave flying instruction to 20 trainees assigned to them by the C. A. A. Each trainee was given training first in a two-control nonspinning airplane with nose-wheel type landing gear and then in conventional airplanes. All instruction followed as closely as possible the course prescribed for the Civilian Pilot Training Program, except that the time limitations were removed.

Type of Instruction

In the nonspinning type of planes the instructor soloed the trainees whenever he judged them to be competent for solo flight. After soloing, each trainee was given the training prescribed for the elementary stage of the Civilian Pilot Training Program, except spins and slips, which could not be performed in these airplanes. The training was divided about evenly between dual and solo flight, and carried to the point at which the instructor believed the trainee could successfully accomplish the flight test for a private pilot certificate. The trainee was then given a flight test by a C. A. A. inspector or in some cases by a qualified flight examiner appointed for that purpose by the Administrator. If the trainee failed, he was given additional training.

Upon passing the flight test in the unconventional airplane, the trainees were

(*See* NONSPIN, *next page*)

Priority Aid Given To Civilian Planes

Deliveries of necessary repair parts and accessories for all registered and certificated civilian-operated airplanes have been granted A–10 preference rating by the Division of Priorities, in an amendment to Supplementary P–6–a.

The original supplementary order, issued on July 21, 1941, assigned the A–10 rating to deliveries of airplanes, as well as repair parts and accessories, to certain specified types of aviation activity, including Civilian Pilot Training Program schools, airline instrument training schools, other schools approved by the Civil Aeronautics Administration, home guard units, pipe line patrol, State and city police, power line patrol, patrol activities by any governmental agency, and experimental projects approved by the C. A. A.

Deliveries to dealers for sale to any of these also carry the A–10 rating. The amendment extends this assistance to dealers supplying any operator of registered and certificated aircraft.

As of October 1, 1941, there were outstanding 91,442 pilot certificates of competency. The Priorities Division pointed out that the pilots to whom these have been issued can only maintain their flying ability through a continuity of flying experience.

Ratings Extended

Manufacturers of airframes, and aviation engines and propellers, who have been operating with the assistance of preference rating orders P–3 and P–4, will continue to receive the same aid during December, the Office of Production Management has announced. The two orders, assigning preference rating A–1–c to engine and propeller manu-

(*See* PRIORITY, *page 308*)

426749—41

U. S. DEPARTMENT OF COMMERCE

CIVIL AERONAUTICS JOURNAL

ISSUED TWICE MONTHLY BY THE CIVIL AERONAUTICS ADMINISTRATION

VOL. 2 DECEMBER 1, 1941 NO. 23

Published with the approval of the Director of the Bureau of the Budget

Issued on the 1st and 15th of each month. Subscription $1 (foreign $1.50) per year. Single copies 5 cents. Sold by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.

CONTENTS

	Page
Proposal trims flying time for nonspin planes	301
Priority aid given to civilian planes	301
Aeronautical legislation	302
Aircraft employment rises to 239,800	302
Toward safer flight	302
Icing problems discussed by specialists	303
New type approvals	309
10,000th propeller	308
Intricate aerial cameras	304
150th anniversary of the Bill of Rights	312
PRIVATE FLYING	
Device useful in teaching of air navigation	304
Written and flight tests separated	305
Designation of medical examiners	305
AIR SAFETY	
Airmen reminded to keep informed by reading notices	306
Individual accident reports	306
September accident report released	307
AIR TRANSPORTATION	
Board authorizes Atlantic City stop on E. A. L. routes	308
Northeast Airlines' mail rate adjusted	308
Air mail service starts on U. S.-Africa route	308
Hearing to be held on Northwest plea	308
Light planes carry air mail	308
AIRWAYS AND AIRPORTS	
16 airports complete servicemen's programs	309
Aeronautical charts	309
Recognized dealers	309
Airport projects approved	309
OFFICIAL ACTIONS	
Orders	310
Regulations	312
Status of parts of the Civil Air Regulations and regulations of the Administrator of Civil Aeronautics	311

Aircraft Employment Rises to 239,800

Continuing its high rate of expansion, the aircraft industry in September employed 239,800 persons, a gain of 16,900 over the August figure, estimates by the Department of Labor reveal.

The estimates also show that the index number of aircraft employment in September was 8,564.9 percent of the 1923–25 average, as against 7,959.9 percent in August 1941, and 3,764.3 percent in September 1940. The index number of aircraft pay rolls in September of this year soared to 11,267.6 percent of the 1923–25 average, compared with 10,462 percent in August 1941, and 4,211.9 percent in September 1940.

—Keep 'Em Flying—

Aeronautical Legislation Pending

Listed below are recent measures concerning aeronautics which are now pending before Congress. A complete list of all proposed legislation appeared in Civil Aeronautics Journal, volume 2, No. 11, dated June 1, 1941, and subsequent issues of the Journal. The compilation here brings this up to date.

Bills Introduced

H. R. 336—AIR PILOT EDUCATIONAL REQUIREMENTS (Hall); a bill to provide for an investigation of air-pilot educational requirements; referred to the Committee on Rules.

Legislative Action

S. 1840—DEFENSE HIGHWAY ACT OF 1941, providing $10,000,000 for flight strips, was passed by the House on Oct. 21, 1941.

Nonspin

(*Continued from preceding page*)

given instruction in either class 1 or class 2–S conventional airplanes. Time limitations again were removed and each trainee was given whatever training was needed to bring him to the same degree of skill in handling a conventional airplane as that required by the average regular C. P. T. student to pass the private pilot examination in a conventional airplane.

After carefully studying the results of this program, the C. A. A. decided to recommend a reduction of about 30 percent in dual flight time prior to solo and of the solo flight time prior to the issuance of a private pilot certificate, if a pilot receives dual instruction and solo time in a two-control nonspinning airplane with nose-wheel type landing gear.

The proposed amendments and explanatory material are embodied in Civil Air Regulations Draft Release No. 2, which may be obtained from the Publications and Statistics Division, Civil Aeronautics Administration, Washington, D. C.

Because a man's life often depends on what happens after the ripcord of a parachute is pulled, it is of the utmost importance that parachutes be properly constructed and properly maintained. The Civil Aeronautics Administration provides safeguards in both respects.

In the first place, the C. A. A. grants a type approval for a manufacturer's model only after it is demonstrated that the parachute meets certain prescribed airworthiness requirements. Secondly, the C. A. A. regulates the maintenance of parachutes by issuing airman certificates to parachute riggers. Candidates are examined and must demonstrate their parachute-packing ability.

There is a third way in which the C. A. A. contributes to safety. Field inspectors receiving complaints about parachutes forward them to the Aircraft Engineering Division, with their own comments added. Sometimes the complaints are made direct to Washington. In each case a thorough investigation is made and, if the facts seem to warrant it, the matter is taken up with the manufacturer.

Increase in Number, Use

As the number of pilots has increased, so also has the number of parachutes in use. But in addition, the parachutes are used many more hours each day than previously. Thus, they age much faster and faults come to light in a much shorter time than before.

This vastly increased use of parachutes also has resulted in overloading commercial riggers with work. The volume of parachutes requiring repacking has taxed their facilities to the utmost and consequently many Army and Navy riggers have been called upon to help relieve this congestion. Their assistance has resulted in expediting the orderly training of C. P. T. pilots. With so many riggers packing civilian parachutes, naturally there has been some difference of opinion in packing procedures and material airworthiness.

To clarify this situation, the C. A. A. has undertaken an educational campaign, in which manufacturers are cooperating. The Aircraft Engineering and General Inspection Divisions of the C. A. A. have prepared and distributed two releases. Certificate and Inspection Division Release No. 51 furnishes a yardstick to help guide a rigger in determining the airworthiness of a parachute. Safety Regulation Release No. 69 gives information about procedures to follow in maintaining parachutes.

Icing Problems Discussed by Specialists

Icing of Aircraft

By B. C. Haynes
Specialist in Meteorology, Safety Bureau

It is the purpose of this bulletin to present in a simplified form the answers to such questions as:

What are the conditions for ice formation on aircraft? Where are the icing zones? What happens when you ice up? What precautions should be taken to insure safety under icing conditions?

Icing is not seasonal in itself. However, the lower portion of the icing zone moves upward and downward from summer to winter and may be found very near the ground over most of the United States in the winter season.

How Ice Is Formed

During flight, the formation of ice on an aircraft results from the freezing of water droplets which are intercepted by the leading edges and exposed surfaces. There are only two fundamental requirements for ice formation: First, the plane must be flying through visible water in the form of rain or cloud, and second, the temperature of the liquid droplets must be 32° F. or below when they strike the aircraft.

Free air thermometers used on aircraft may have errors in calibration of plus or minus 2° F. and the expansion cooling over the top of the wing may reduce the temperature of the wing surface 2 or 3 degrees below the free air temperature. To be conservative, when the free air thermometer reads 36° F. or below and water droplets are present, use caution and watch for ice formation on the airplane.

Types of Ice

There are three principal types of ice which affect aircraft operation. These are *glaze* or *clear ice*, *rime ice*, and *frost*. *Glaze* is a transparent or translucent coating of ice which has a glassy surface. *Rime* is white or milky opaque, granular deposit of ice which accumulates on the leading edges of wings, struts, etc., of an aircraft. Its surface ordinarily is relatively rough. *Frost* is a light, whitish, feathery, crystalline structure of snowlike character. It is similar to frost observed on objects on the ground in the early morning, most commonly in the cooler season of the year following rather humid nights when the surface temperature falls below 32° F.

The rate of ice accretion depends upon a combination of a large number of factors but principally on the air speed, size of the cloud or rain droplets, density of visible water, and shape of the external area of the airplane. The rate of ice accumulation varies over wide

(*See* HAYNES, *page 309*)

Because questions about the danger of icing during flights in winter are uppermost in the minds of pilots and aircraft operators at this time of year, the Civil Aeronautics Journal presents here the summaries of two important studies of this problem. One is contained in a safety bulletin issued by the Civil Aeronautics Board. It is entitled, ICING OF AIRCRAFT, *and was written by B. C. Haynes, Safety Bureau Specialist in Meteorology. Copies of this bulletin may be obtained from the Publications and Statistics Division, Civil Aeronautics Administration, Washington, D. C.*

The other study is on ICING PROBLEMS IN AIRCRAFT INDUCTION SYSTEMS, *a paper presented recently at the National Aircraft Production Meeting of the Society of Automotive Engineers at Los Angeles, by Leo B. Kimball, of the National Bureau of Standards, Washington, D. C.*

The former article does not cover the subject of carburetor ice, while the latter deals almost exclusively with this phase of the general problem. Since space limitations make it impossible to print both articles in full, a summarized version of each is given in the adjoining columns. Following is a list of pertinent "don'ts" which have been compiled in a "Safety Summary" covering this problem:

Safety Summary

Some DON'TS for Safety First Under Icing Conditions

On the Ground

1. *Don't* attempt take-off with any frost on wings or tail surfaces.

2. *Don't* attempt take-off with any loose snow on the wing or tail surfaces as it may be covering a hard ice formation caused by melted snow which has refrozen. Loose snow also may pack between the ailerons and the wings.

3. *Don't* taxi fast over pools of water when temperature is near freezing; splash may form ice on wings and stabilizer or the splash may ice up brakes or retracting mechanism of landing gear.

4. *Don't* take-off without first testing all controls to insure that hinges have not frozen.

5. *Don't* warm up engine in a fog when temperature is near freezing. Ice may form on propeller and on wing and on stabilizer in back of propeller blast.

6. *Don't* attempt take-off with any ice on the airplane or propeller.

7. *Don't* take off into a known icing condition when plane is not equipped with all modern deicing and antiicing aids.

8. *Don't* plan flights through continuous icing zones even though ship is equipped with all deicing and antiicing aids.

(*See* SAFETY SUMMARY, *page 305*)

Icing Problems in Aircraft Induction Systems

By Leo B. Kimball
National Bureau of Standards

The problems brought about by the icing phenomenon have always seemed easy of solution, but the often unaccounted for factors involved have prevented complete elimination of this condition.

The ideal induction system for which we strive is one in which no ice will accumulate during severe icing conditions and which would require no heat, alcohol, anilol, or protected air intakes during these conditions. This seems remote in the light of past experiences. However, I feel that progress towards a solution is being made.

Started Last Year

The present research program on Induction System Icing at the National Bureau of Standards was undertaken last year by a subcommittee of the National Advisory Committee for Aeronautics. Funds were provided by the Army, Navy, Civil Aeronautics Administration, and the N. A. C. A. The Altitude Laboratory at the National Bureau of Standards was chosen to house the project as it offered the best available facilities. The altitude chamber is equipped to produce all sorts of atmospheric conditions.

The research program includes the investigation of the following variables: Air temperature, water content of air, droplet size, mixture ratio, air flow, pressure drop through carburetor, metal temperatures, throttle opening, and altitude. Recording instruments are used to take most of the readings, as it is impossible to make observations of all the variables fast enough to obtain accurate results.

Preliminary Results

Preliminary tests have led to the conclusion that the induction system could be made substantially ice-free if certain rules were observed in designing the system; i. e.:

1. The induction system below the carburetor should be so designed that there will be no change in the aspect ratio of successive sections such as to prevent the escape of an ice formation which has been loosened from the surface of the metal.

2. There should be a slight draught in the downstream direction of the induction passage so that the ice may fall off readily from the metal walls.

3. There should be no nuts, bolts, studs, thermometer bulbs, thermocouples, or other protuberances extending beyond the wall of the intake pas-

(*See* KIMBALL, *page 308*)

Device Useful In Teaching of Air Navigation

The accompanying drawing and description "Why Compass Heading Differs from the True Heading," were submitted to the Civil Aeronautics Administration by H. Lynn Bloxom, navigation instructor, Civilian Pilot Training, Fort Dodge, Iowa. The Standards Division of the C. P. T. P. has distributed copies to Coordinators for use in the teaching of navigation.

The drawing and description are self-explanatory. The CIVIL AERONAUTICS JOURNAL *reproduces them here because they may prove of interest and value to student pilots and others wishing to learn air navigation.*

Device for Showing Why Compass Heading Differs From the True Heading

By H. Lynn Bloxom

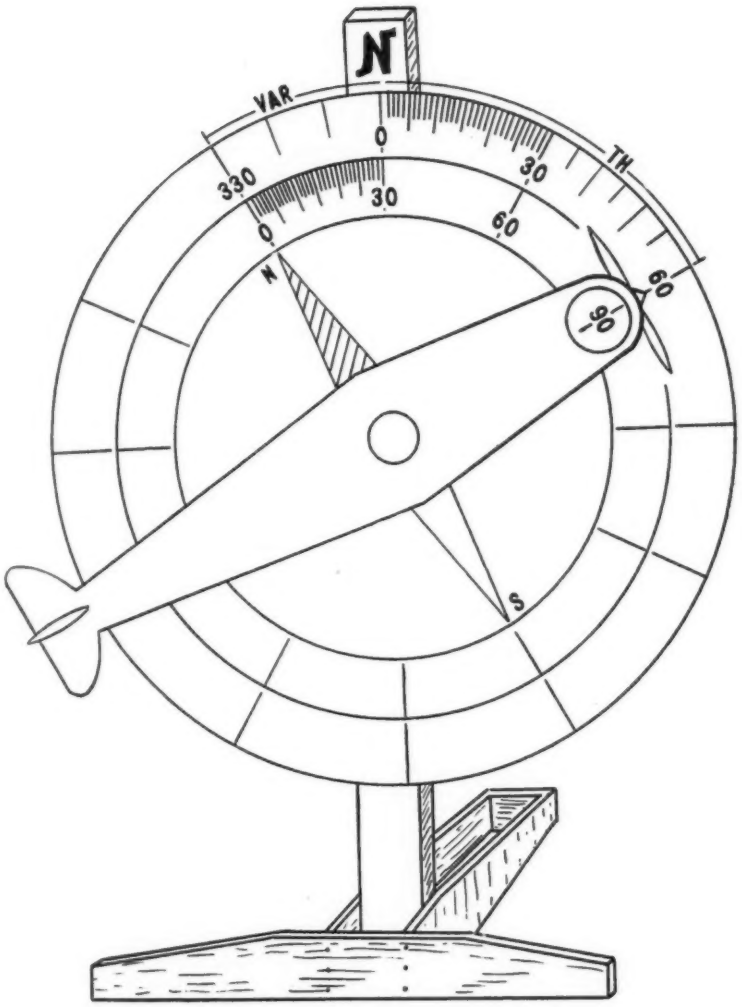
This device is easily constructed from wood and cardboard and needs very little explanation. A stand with a vertical upright strip of wood was constructed as shown. A large circle of cardboard was carefully graduated in degrees to represent the compass rose. Another smaller circle was similarly graduated but upon this one, as shown, there was drawn a large image of a compass needle. Thus the smaller circle with its magnetic needle represented the dial and needle of a magnetic compass.

A third piece, made of plywood, was cut out to represent the fuselage of the aircraft and at the propeller end of this piece a circular opening was cut out so that the numerals on the smaller circle came into view in the opening when the three pieces were properly assembled. This opening represented the window of the compass.

Tacked to Upright

The larger circle was tacked fast to the upright so that it could not rotate, and with its zero position up. This zero was marked with a large "N" to designate true north. A hole was made at the center of the smaller circle so that it could be rotated by hand around a central screw. This screw also passed through a single hole made in the imitation fuselage. The plywood piece was trimmed to balance. The screw was tightened only enough to hold the smaller circle and the airplane from rotating of their own accord.

Thus the whole device consisted of a stationary circle showing true directions, a rotating circle with needle showing needle and scale turn together, and a plane with a window in which compass headings were read when either the plane or the compass dial was changed. (The circles in this device should exceed 2 feet in diameter by as much as practical.)



Variation Added

The illustration shows a true heading of 60° with a magnetic heading of 90° when a variation of 30° west was represented by rotating the compass needle to point to 330° true. This makes clear why westerly variation is added to the true heading to get magnetic course. By rotating the inner circle 5° clockwise to represent deviation of 5° east, the compass course showing in the window would become 85°, thus showing that easterly deviation (or other easterly errors) are subtracted. Now if 10° right wind correction is necessary, rotating the plane 10° to the right increases the reading in the window to 95°, which is the compass heading. "Adding wind right" is thus demonstrated. Thus pages of book explanation are reduced to only two important facts: The compass readings are increased by any westward movement of the north end of the compass needle or any turn to the right made by the plane.

It is easy to check and illustrate navigation problems done on paper by using this device. It likewise illustrates the mechanical form of calculator. The students' faces look a bit brighter after a little work with this thing.

Intricate Aerial Cameras

An aeronautical equipment firm is constructing aerial cameras which have an average of 2,000 parts. Some of these parts are finished down to a tolerance of 3/10,000 of an inch.

Safety Summary

(*Continued from page 303*)

9. *Don't* taxi fast on an ice-coated runway or taxi strip.

10. *Don't* apply brakes suddenly on an ice-coated runway after plane is on the ground. Use full effective runway. Radio for condition of runway before landing.

11. *Don't* take off during a wet snow condition.

Protection and Removal While on the Ground

1. Keep plane in heated hangar if possible.

2. Filter gas through chamois or water separator. Water particles may freeze in gas line when ship is taken out.

3. Wing covers and engine covers should be used if plane is kept in the open.

4. Cover pitot tube with loose rag to keep out snow during snowstorm or blowing snow. String from rag to block would insure removal before take-off.

5. Rubber scraper should be used to remove frost. Waste rags may also be used.

6. Snow or frost may be removed by throwing a rope or strip of canvas over the wing, and with a man on each end the snow may be "sawed" off.

7. Removal of ice by application of hot water is not advised. It will only freeze again and may produce a worse condition than before application.

In the Air

1. *Don't* continue flight into a region of known icing conditions.

2. *Don't* fly through rain showers or wet snow when temperature at flight level is near freezing.

3. *Don't* fly parallel to a front under icing conditions.

4. *Don't* fly in clouds at a low altitude above the crests of ridges or mountains. Four or five thousand feet above ridges should be maintained when flying on instruments through clouds at temperatures below 32° F.

5. *Don't* fly into cumulus clouds at low temperatures. Heavy glaze ice may be encountered.

6. *Don't* make steep turns with ice on the airplane.

7. *Don't* practice stalls or spins with ice on the airplane.

8. *Don't* land with power off when ice has formed on the wings and on exposed surfaces of the plane.

9. *Don't* try to climb too fast when ice has formed on plane, since stalling speed is higher than normal.

10. *Don't* forget when flying under icing conditions that gasoline consumption is greater, due to increased drag and additional power required.

11. *Don't* attempt a cross-country flight in fall or winter without first consulting the nearest U. S. Weather Bureau Airway Forecast Center to obtain a forecast as to expected icing conditions.

Designation of Medical Examiners

During the month of October 1941, the following physicians were officially authorized to make physical examinations for the Civil Aeronautics Administration.

COLORADO—Dr. Roy J. Day, 301 West Avenue, Alamosa.

INDIANA—Dr. Alfred C. Bartholomew, 405 Dime Bank Building, Fort Wayne.

CUBA—Dr. Francisco Hernandez y D'Abrigeon, Calle D y Fuentes, Almendares—Meriano, Havana.

HAITI—Dr. Louis Hippolyte, Physician in Chief, General Hospital, Port au Prince.

MEXICO—Dr. Paul Terres Prieto, Cralos B. Getina 99, Tacubaya, Mexico City.

CENTRAL AMERICA—Dr. Paul Arguello, Ave 5 a-48, San Salvador, El Salvador; Dr. Salvador Batista-Mena, 13ª Avenida Sur #6, San Salvador, El Salvador.

SOUTH AMERICA—

Dr. Luis J. Carrer, Avenida San Juan 1040, Mendoza, Argentina.

Dr. Jorge Rene Delgadillo, Box 953, La Paz, Bolivia.

Dr. Hernando Echeverri, Clinica del Prado, Calle 3– El Prado, Barranquillo, Colombia.

Dr. Enrique Herrera, 24–35 Carrera 7ª, Bogota, Colombia.

Dr. Jorge Salcedo Salgar, 845–49 Carrera 8ª Bogota, Colombia.

Dr. C. Gonzales H., Ave Almedo 48, Quito, Ecuador.

Dr. Corrin H. Hodgson, British American Hospital, Casilla #416, Callao, Lima, Peru.

Dr. Hermogenes Rivero, Reducto a Glorieta 82, Caracas, Venezuela.

Air Line Medical Examiners

Dr. J. Henry Schroeder, 707 Race Street, Cincinnati, Ohio.

Dr. Francisco Hernandez y D'Abrigeon, Havana, Cuba.

Dr. Louis Hippolyte, Port au Prince, Haiti.

Dr. Paul Terres Prieto, Mexico City, Mexico.

Dr. Paul Arguello, El Salvador, Central America.

Dr. Salvador Batista-Mena, El Salvador, Central America.

Dr. Luis J. Carrer, Mendoza, Argentina.

Dr. Jorge Rene Delgadillo, La Paz, Bolivia.

Dr. Hernando Echeverri, Barranquillo, Colombia.

Dr. Enrique Herrera, Bogota, Colombia.

Dr. Jorge Salcedo Salgar, Bogota, Colombia.

Dr. C. Gonzales H., Quito, Ecuador.

Dr. Corrin G. Hodgson, Lima, Peru.

Dr. Hermogenes Rivero, Caracas, Venezuela.

Secondary CPT Medical Examiners

Dr. Lawrence B. Dunn, 201 East York Street, Savannah, Ga.

Dr. Casper W. Pond, Kane Building, Pocatello, Idaho.

Dr. Alfred C. Bartholomew, 405 Dime Bank Building, Fort Wayne, Ind.

Dr. Byrd S. Leavell, Medical Arts Building, Charlottesville, Va.

The following-named physician changed his address during the month, his new address being as follows:

Dr. William H. Henry, 2 North Main Street, Middletown, Ohio.

The following-named physicians are no longer making examinations for the Administration:

Dr. Earl M. Tarr, Fillmore, Calif.

Dr. Reynolds D. Smith, Los Angeles, Calif.

Dr. Howard W. Byrn, Alamosa, Colo.

Dr. Abram M. Newton, Pocatello, Idaho.

Dr. D. D. Johnston, Fort Wayne, Ind.

Dr. Lauren J. Henderson, Cedar Falls, Iowa.

Dr. Richard W. Young, Baton Rouge, La.

Dr. D. S. Mackenzie, Havre, Mont.

Dr. Leon J. Schwartz, Bridgeton, N. J.

Dr. Roy L. Fisher, Frederick, Okla.

Dr. Willis A. Redding, Towanda, Pa.

Dr. Gottlieb Langner, Jr., Brownsville, Tex.

Capt. John B. Herman, Albrook Field, C. Z.

Capt. J. D. Morley, France Field, C. Z.

Lt. Comdr. R. W. Hege, Coco Solo, C. Z.

Dr. O. D. Gestido, Montevideo, Uruguay, South America.

Dr. Jose Marie Pena, Montevideo, Uruguay, South America.

AIR LINE MEDICAL EXAMINERS—

Dr. Gottlieb Langner, Jr., Brownsville, Tex.

Dr. O. D. Gestido, Montevideo, Uruguay, South America.

Dr. Jose Marie Pena, Montevideo, Uruguay, South America.

SECONDARY CPT MEDICAL EXAMINERS—Dr. Donald D. Johnston, Fort Wayne, Ind.

Written and Flight Tests Separated

The separation of written examinations and flight tests for all grades of pilot certificates and ratings has been announced by the General Inspection Division of the Civil Aeronautics Administration.

Under this new policy, written examinations and flight tests will no longer be conducted on the same inspector itinerary dates, except under very unusual circumstances. Applicants will be encouraged to present themselves to a C. A. A. inspector at one of the places scheduled for written examinations prior to applying for their flight test.

Any person 18 years of age, who possesses a valid student pilot certificate, will be considered eligible to make application to take the written examination for any grade of pilot certificate. The holder of a private pilot certificate, with a total of at least 200 solo hours, or a commercial pilot certificate, will be eligible to make application to take the written examination for any special rating.

Applicants for special ratings will in all cases be given the written examination first, and if this portion of the examination is not accomplished successfully, the flight test will not be given. With this exception, the practice of giving flight tests prior to the successful completion of written examinations may still be followed, although it is believed that after a short period under the new system there will be very few such cases outside of approved school graduates.

– Keep 'Em Flying –

Airmen Reminded To Keep Informed By Reading Notices

The importance of reading all notices to airmen, including the Teletype Dispatch NOTAMS and the Weekly Notice to Airmen, was stressed in a recent safety bulletin issued by the Civil Aeronautics Board.

The bulletin urged pilots and others concerned to keep up to the minute by reading these notices, which are issued by the Civil Aeronautics Administration for the benefit of all airmen. Information carried in the notices covers new airports, new radio aids, danger areas, new obstructions, and many other items necessary for planning safe flight. Full text of the bulletin follows:

To Pilots and All Concerned

Notices to Airmen (NOTAMS) Are for Your Protection. Read Them!

Many airports are undergoing repairs and alterations. Some may be used with caution. Others are unsafe for use.

New radio aids are being installed. Some are being abandoned. Others are being changed.

Due to increased military activities (training, bombing, gun firing, etc.) danger areas are being created almost daily and should be avoided.

NOTAMS are issued for your benefit and information. READ THEM AND KEEP UP-TO-DATE!

Special Notice

Regional semimonthly notices to airmen have been discontinued. Your only sources of such information are Teletype Dispatch NOTAMS and WEEKLY NOTICE TO AIRMEN issued from Washington.

These notices provide information about new airports, new radio aids, new beacon lights, new obstructions, new Civil Air Regulations, new aeronautical charts, current conditions of airports, abandonment of certain aids, and current danger areas with appropriate sketches.

Airport managers receive NOTAMS and should place them on bulletin boards. Bulletin boards of every operator, hangar, and flying club should be currently posted.

INDIVIDUAL ACCIDENT REPORTS

Struck by Rotating Propeller

Marvin Cohen, aged 20 months, was seriously injured when struck by the propeller of an airplane at the Sky Harbor Airport, Indianapolis, Ind., on September 15, 1940. James Coffee, pilot of the airplane, held a private certificate with 1-Land rating. He had logged approximately 102 hours solo flying time. The airplane, a Luscombe, Model 8A, powered by a Continental 65 hp. engine, was not damaged.

Pilot Coffee had taken Meyer B. Cohen for a 20-minute flight prior to landing and taxiing to the southwest end of the field. The engine was running as Mrs. Cohen and her infant son, Marvin Cohen, walked from the hangar toward the left rear side of the plane. The pilot had just called to Mrs. Cohen and asked if she wanted to make a flight, when the infant son broke away from his mother and started toward the aircraft. The pilot immediately cut the switch to stop the engine. The mother, upon seeing her son's danger, attempted unsuccessfully to stop him before he reached the path of the still rotating propeller. A propeller blade struck the infant's head just before the propeller ceased rotating.

Probable cause.—Failure of persons present to keep child away from rotating propeller.

Failure to Recover From Spin

In an accident near Saugus, Mass., on February 9, 1941, Laurence G. Hanscom, a private pilot with a Class 1 and 2S Land ratings and approximately 1,000 hours of flying experience, was fatally injured. His passenger, Anthony P. Carbone, who held a student pilot certificate, was also injured. The aircraft, a Fleet, Model 7, was demolished.

The pilot, accompanied by his passenger, took off from Muller Airport, near Saugus, about 1:30 p. m. The aircraft was flown to a point about 2 miles north of the airport, where, at an estimated altitude of 3,000 feet, it was seen to execute acrobatic maneuvers. These included several power stalls followed by several spins. Another abrupt power stall was started and the aircraft, during the latter part of this maneuver, entered a right spin. The spin stopped at an altitude of 200 to 300 feet and at that point the aircraft dived to the ground, striking in a nearly vertical attitude.

Subsequent investigation revealed no failure of the control system or structure, and no malfunctioning of the engine. The dual controls were connected. There was no lack of fuel. It appeared that the acrobatic maneuvers had been planned in advance. The evidence indicates that the pilot was not in good physical condition due to the fact that he was recovering from a severe case of grippe and, in addition, had had two teeth extracted on the previous day, suffering considerable loss of blood as a result. In view of these facts, it is possible that he was momentarily incapacitated to such an extent that he was unable to take the action necessary to regain control, and that the student failed to realize the situation until too late to avoid the crash.

Probable cause.—An intentional spin from which the pilot failed to recover.

Contributing factor.—Pilot's impaired physical condition.

Stall at Low Altitude Causes Fatal Accident

An accident which occurred on August 18, 1940, near the Municipal Airport, Salem, Oreg., resulted in fatal injuries to Raymond Bennett. He was the holder of a student certificate and had logged about 20 solo flight hours. The aircraft, an Eyerly powered by a Le-Blond 60 hp. engine, received major damage.

The pilot made a normal take-off toward the south on the north-south runway. He circled to the left and climbed to an altitude of approximately 1,000 feet over a point north of the airport. Here a landing approach toward the airport was started. As he neared the airport boundary at low altitude the throttle was partly opened, apparently to correct for undershooting. On reaching the airport boundary, he observed another aircraft taking off on the runway and immediately started a steep, climbing, right turn. This turn progressively steepened and tightened until the airplane stalled at an altitude of about 200 feet. It is indicated that the pilot did not open the throttle during this turn since full power was heard applied as the stall developed. The airplane fell off into a right spin from which partial recovery was effected before the aircraft struck the ground.

Investigation did not reveal any structural failure of the aircraft or aircraft controls, or any malfunctioning of the engine.

Probable cause.—Pilot stalled aircraft at an altitude too low to permit recovery.

Contributing factor.—Inexperience of pilot.

Take-off Attempted From Unsuitable Runway

An accident at Van Curler's Bar, Alaska, on November 13, 1940, resulted in serious injury to Robert W. Ausley, pilot, and slight injury to Fred Parker, Jr., revenue passenger. Ausley, the holder of a commercial pilot certificate with a 2S Land rating, had accumulated approximately 670 hours solo flying time. The aircraft, a Stinson, Jr., Model SR, received major damage.

A take-off was made from the Van Curler's Bar Airport and the aircraft, after traveling about two-thirds of the length of the runway, flew about 150 feet and then settled to the ground. At this point, the end of the runway was very close and the take-off attempt was continued. Just beyond the end of the runway, the landing gear struck a ledge and collapsed. The aircraft continued in level flight. Directly ahead was a dam about 10 feet high, and, when the aircraft came within approximately 150 feet of it, the pilot realized he could not climb over it. He cut the switch and the aircraft mushed into the ground and slid into the dam.

Subsequent review of the circumstances indicate that operation from the subject airport was hazardous because of the shortness (850 feet) of the runway, a light, variable, and erratic wind, and an impeding snow blanket of several inches of loose snow. Investigation disclosed that the aircraft had struck a bump, just prior to the initial take-off, and that this had bounced the airplane into the air without full flying speed. It settled back to the ground, but was too close to the end of the runway to stop. The aircraft was loaded within its allowable weight limits.

Probable cause.—Action of the pilot in attempting take-off from an extremely short, snow-covered runway.

Stall During Power-Off Turn

An accident which occurred near Felts Field, Spokane, Wash., on November 14, 1940, resulted in fatal injury to Mary Ann McKenzie, a student of the Elementary course of the Civilian Pilot Training Program. The aircraft, a Porterfield, Model LP–65, received major damage. Miss McKenzie, who held a student certificate, had received 11 hours 45 minutes dual instruction and had logged approximately 45 minutes solo flight time.

Following a check flight with her instructor, the pilot, flying solo, was practicing take-offs and landings toward the east into a quartering east-southeast wind of about 4 m. p. h. velocity. Four take-offs and landings had been completed successfully when she again took off and followed approximately the same circuit until she started her power-off glide toward the south. There she followed a path parallel to the west side of the airport and approximately 400 feet from it. When the aircraft, at an altitude of less than 100 feet, passed over the area which she had been using for this practice, it was in a flat glide. A turn toward the airport was started, during which the airplane stalled and fell off in a steep dive to the ground.

Examination of the aircraft indicated that the engine was not developing power at the time of impact. The engine appeared to be properly maintained and there was nothing to indicate that it had malfunctioned during the flight. There was no evidence of structural or control system failure. Investigation revealed that the pilot's safety belt had broken on impact and that the pilot had been thrown from the aircraft.

Probable cause.—Pilot stalled the airplane during a power-off turn at low altitude.

Contributing factor.—Inexperience of the pilot.

Acrobatics at Low Altitude Causes Accident

Pilot Elliot Underhill and his two passengers, Edwin Martin, solo pilot, and Walter Abrams, student pilot, were all fatally injured on June 27, 1940, near North Billerton, Mass., during an attempt by the pilot to perform an acrobatic maneuver.

Pilot Underhill, who had 7,137 flying hours, was employed by a flying club at Lowell, Mass., Airport, and the two passengers were members of the club. The aircraft involved was a New Standard, Model D–25, powered by a Wright, J–5 220-horsepower motor. Underhill, upon receiving permission to fly the plane, took off solo and made three take-offs and landings successfully. Upon the conclusion of the third landing he taxied to the airport hangar, where he invited the two passengers to accompany him on a flight. As the passengers emplaned preparatory to taxying for a take-off position, the owner, Mr. T. Seymour Jessup, standing nearby, heard one of the passengers say to Underhill, "Let's see you slow-roll it." However, the owner considered Underhill to be an experienced pilot, and knowing the pilot and passengers were not equipped with parachutes, disregarded the comment.

A short time later the pilot executed a normal take-off. After attaining an altitude of approximately 400 feet, the aircraft was observed to start a slow roll to the left. However, the maneuver was interrupted after it had rotated about 90 degrees in the roll, recovery being effected after an approximate loss of 100 feet. A short time later, the airplane was observed again to enter a slow-roll maneuver. On this maneuver the airplane had attained an inverted attitude when it was observed to fall off into a spin which continued until it struck the ground on its nose and was demolished.

Probable Cause.—Action of the pilot in attempting to perform acrobatics at a dangerously low altitude.

Engine Failure—Forced Landing

Pilot Harry Gasteiger was serously injured in an accident which occurred on September 10, 1940, near Johnson City, Tenn. Gasteiger was a student in the primary course of the Civilian Pilot Training Program, and held a student pilot certificate. At the time of the accident he had accumulated 13¼ hours of solo flight time. The airplane, a Piper, Model J3C–65, suffered major damage.

The pilot took off solo on the day of the accident to practice spins. At an altitude of approximately 3,000 feet he placed the airplane in a stalled attitude with the throttle closed, preparatory to entering a spin. The engine stopped, necessitating an emergency landing. The pilot selected a small, rough field for a landing and had contacted the ground when the airplane rolled over the top of a hill into a depression in which it nosed over.

Investigation indicated that the engine stopped because of improper idling adjustment.

Probable cause.—Engine failure necessitating an emergency landing on unsuitable terrain.

Contributing factors.— (1) Inexperience of pilot. (2) Improper idling adjustment of engine.

(*See* ACCIDENT REPORTS, *page 312*)

September Accident Report Released

Nineteen fatal, non-air-carrier accidents were reported for the month of September 1941, as compared with 17 which occurred during August, the Civil Aeronautics Board has announced.

Included in the list of fatalities was an accident believed caused by the pilot's loss of a cigarette and consequent setting fire to the cockpit. Another fatality resulted from a CAR violation when the pilot, who was not equipped for instrument flying, crashed into a mountain in heavy fog. Two parachute jumpers were fatally injured when their chutes failed to open.

Following is a table comparing fatal accidents in August and September 1940 and 1941:

	Non-air-carrier			Scheduled air carrier		
	CPT graduates	CPT	Non-CPT	Domestic	Foreign	Total
Sept. 1941	2	1	16	----	----	19
Sept. 1940	1	3	25	----	----	29
Aug. 1941	1	3	13	----	----	17
Aug. 1940	----	5	26	1	----	32

The following table shows the causes of September fatalities:

	Kind of flying				
	Instructional	Pleasure	Commercial	No details	Total
Spin and stall	1	2	----	----	3
Spun in from low altitude	----	2	----	2	4
Fire	1	1	----	----	2
Parachute jump	[1] 2	----	----	----	2
Inexperienced pilot	----	----	1	----	1
Undetermined	----	----	----	[2] 7	7
Total	4	5	1	9	19

[1] In 1 of these, parachute opened too close to the ground; in the other, the parachute did not open.
[2] Investigator reports not yet received.

Board Authorizes Atlantic City Stop On EAL Routes

Air service for passengers, property, and mail to Atlantic City, N. J., was assured when the Civil Aeronautics Board authorized an amendment to Eastern Air Lines, Inc.'s route Nos. 5 and 6 to include Atlantic City as an intermediate stop on the section of the routes between Philadelphia, Pa., and Baltimore, Md. The applications for similar service of Pennsylvania-Central Airlines Corporation and Transcontinental and Western Air, Inc., were denied.

The Board held that the new service was in the public interest because of the great volume of passengers and mail going to Atlantic City. While the bulk of this traffic is seasonal, there is a sufficient amount during all months to justify year-round air transportation. The largest proportion of this traffic is from points within 200 miles, with New York, Philadelphia, Baltimore, and Washington furnishing the greater part. All of these points are on Eastern's two routes.

The Board stated that authorization to P-CA would have meant the establishment of a new route into New York in competition with present carriers serving that city and that there is no evidence that such additional service is needed. TWA, on the other hand, has no route into Baltimore and Washington and would require a change of carriers at Philadelphia to serve these cities. For these reasons, the two applications were denied.

Service on the route will not become effective until the Board has been advised by the Army and Navy Departments that their national defense requirements for aviation material and personnel no longer necessitate deferment.

Hearing To Be Held On Northwest Plea

The Civil Aeronautics Board will hold a public hearing, at a date to be announced, requiring Northwest Airlines, Inc., to show cause why its application for permission to use the Minneapolis, Minn., Municipal Airport as a stop from which to serve St. Paul, Minn., should not be disapproved.

Northwest has been serving St. Paul as an intermediate stop on route No. 3, through the St. Paul Municipal Airport since May 1, 1941. On October 20, the company filed with the Board notice of its intention to discontinue this stop and to discharge St. Paul passengers at Minneapolis instead. The city of St. Paul filed a protest against discontinuance of service at its own airport, and the Board accordingly issued the show-cause order on the airline.

Northeast Airlines' Mail Rate Adjusted

By an opinion and order issued recently, the Civil Aeronautics Board adjusted the mail rate heretofore fixed by it for Northeast Airlines, Inc.'s route No. 27, in order to take into account the mileage involved in certain additional schedules, to begin as soon as they are designated by the Post Office Department. The adjustments of the rates do not affect the carrier's total mail pay. The new schedules are to be flown between Boston, Mass., and Bangor, Maine.

The adjusted mail pay rates are as follows: a base rate of 28.69 cents per airplane mile, for the first 300 pounds of mail, or fraction thereof, plus 2.5 percent of such base rate for each additional 25 pounds of mail, or fraction thereof, carried on schedules designated by the Post Office Department.

– Keep 'Em Flying –

Air-Mail Service Starts On U. S.-Africa Route

Air-mail service between the United States and Africa was scheduled to begin on or about November 29, according to an announcement by the Post Office Department.

The new air route across the South Atlantic runs from Miami, Fla., to Leopoldville, Belgian Congo, via San Juan, P. R.; Port of Spain, Trinidad; Belem and Natal, Brazil; Bathurst, Gambia; and Lagos, Nigeria, to Leopoldville. Bathurst is designated temporarily as an intermediate stop, pending the development of landing facilities at Monrovia, Liberia.

Light Planes Carry Air Mail

The Dominican Republic is using four 75-horsepower light airplanes to carry air mail. This is the first instance of scheduled air mail routes using only light plane equipment.

Kimball

(Continued from page 303)

sage into the mixture stream which will hinder the removal of the ice formation.

Finning Suggested

In studying the mechanism of the formation it was concluded that either finning the adapter or even oil jacketing would reduce the thickness of the ice which could form if the design rules were followed.

Since most of the corrective measures suggested involve design changes which cannot be readily embodied into present equipment, considerable interest has developed in the possibility of icing indicators.

Two indicators have been tested at the Bureau, one of the tube type using pressure differences for indication, and the other a photo cell type of indicator. Principal elements of the tube type indicator are two impact tubes and a diaphragm valve. The smaller tube is located at the top of the adapter to register impact icing while the large tube is placed in the lower portion of the adapter to register refrigeration ice.

Photocell Reaction

The photocell indicator consists of a light source installed on one side of the adapter and the photocell and one stage of amplification on the other. As ice forms in the adapter the light intensity at the photocell is reduced.

In actual aircraft installation the amplifier would be installed in the radio compartment and the indicator on the instrument panel. With this type of instrument, the normal accretion of ice which does not affect the operation of the aircraft is indicated by a fluctuation of the needle. A full-scale deflection of the needle indicates that if the pilot should open his throttle wide he would probably not obtain full power from his motors.

Priority

(Continued from page 301)

facturers, and A–1–d to airframe makers, were issued on April 29, 1941. They have been extended until the end of the year so that there may be no lapse in aircraft production while a new type of order for the industry is being studied by O. P. M. experts.

– Keep 'Em Flying –

10,000th Propeller

The propeller division of a leading aviation company at Clinton, N. J., recently produced its 10,000th propeller since 1935. It was a four-blade type with a diameter of 13½ feet, and was shipped to Baltimore for installation on a B–26 bomber.

Airport Projects Approved

In accordance with the provisions of section 303 of the Civil Aeronautics Act, the Administrator of Civil Aeronautics has issued certificates of air navigation facility necessity, authorizing the expenditure of Federal funds in the operation of the following projects:

CALIFORNIA	
Los Angeles, Los Angeles Airport (WPA)	$111,133
Oakland, Municipal Airport (WPA)	286,110
FLORIDA	
Bartow, Municipal Airport (CAA–WPA)	202,050
Ocala, Municipal Airport (CAA–WPA)	180,020
Orlando, Municipal Airport No. 2 (CAA–WPA)	304,828
GEORGIA	
Macon, Municipal Airport (CAA–WPA)	48,208
MAINE	
Millinocket, Municipal Airport (WPA)	219,788
Waterville, Municipal Airport (WPA)	38,020
MASSACHUSETTS	
Leominster, Fitchburg Airport (CAA–WPA)	277,910
MONTANA	
Missoula, Missoula County Airport (CAA–WPA)	114,494
NEBRASKA	
North Platte, Municipal Airport (CAA–WPA)	109,359
Peru, Municipal Airport (NYA)	1,533
NEW MEXICO	
Silver City, Municipal Airport (WPA)	7,213
OREGON	
Roseburg, Intermediate Landing Field (WPA)	32,098
SOUTH DAKOTA	
Mitchell, Municipal Airport (WPA)	124,617
Watertown, Municipal Airport (WPA)	86,920
VERMONT	
Berlin, Barre-Montpelier Airport (CAA–WPA)	197,693

—Keep 'Em Flying.—

New Type Approvals

(Approval numbers and dates of assignment in parentheses)

Type Certificates

Aircraft

Bellanca, 14–12F–3, 3 place closed land monoplane. Engine, Franklin 6AC–264–F3. (745, October 30, 1941)

New Models Added to Old Type Approvals

(Approval numbers and dates of approval of new models in parentheses)

Aircraft

Rearwin, 180, 2 place closed land monoplane. Engine, Continental A–80–8. (Type Certificate No. 729, October 25, 1941)

Rearwin, 180F, 2 place closed land monoplane Engine, Franklin 4AC–176–F3. (Type Certificate No. 729, October 25, 1941)

Vega, 35–67, 2 place open land monoplane. tificate No. 741, October 25, 1941)

16 Airports Complete Servicemen's Programs

With the completion of the Airport Servicemen's Training Program at 16 airports during November, the total number of such programs completed has risen to 85, according to an announcement by the U. S. Office of Education. The following airports are those which completed their programs in November:

Madison Municipal Airport, Madison, Wis.; Oklahoma City Municipal Airport, Oklahoma City, Okla.; Bendix Field, St. Joseph City Airport, South Bend, Ind.; Cub Haven Airport, Lock Haven, Pa.; General Mitchell Field, Milwaukee, Wis.; Kent County Airport, Grand Rapids, Mich.; Toledo Municipal Airport, Toledo, Ohio; Tulsa Municipal Airport, Tulsa, Okla.; Williamson-Johnson Airport, Duluth, Minn.; Kansas City Municipal Airport, Kansas City, Mo.; Billings Municipal Airport, Billings, Mont.; AlexanderAirport, Wausau, Wis.; Sky Harbor Airport, Northbrook, Ill.; Joliet Municipal Airport, Joliet, Ill.; Cleveland Municipal Airport, Cleveland, Ohio; Tri-Cities Airport, Binghamton, N. Y.

Haynes

(Continued from page 303)

ranges and may be less than ½ inch in 1 hour to over 1 inch in 1 minute.

Effects on Plane

Ice may form on a plane parked on the ground, during take-off, during contact flight, or during instrument flight through clouds. The pilot should be thoroughly familiar with weather and temperature conditions which may cause ice to form on his aircraft but equally important is an understanding of what is happening to the plane when an unexpected icing condition is encountered. Light planes not equipped with full deicing equipment are better off in the hangar when icing conditions are present.

Ice on wings produces loss of lift, added drag, added weight. Propeller icing causes loss of propeller efficiency and vibration. Freezing of controls is important when the plane has been flying in rain and then enters a freezing zone or when the ship has been washed and removed from a warm hangar and outside air temperature is below freezing. Icing of pitot tubes is important in that the air speed indicator will fail when the pitot ices up.

Fuller explanations of these effects and precautions to take in each case are included in the full text of this bulletin, as well as in the accompanying list of "don'ts" in the Safety Summary.

Aeronautical Charts

During October the following new editions of aeronautical charts were issued by the United States Coast and Geodetic Survey. Pilots are warned that the previous editions of the same charts are canceled and now are obsolete.

Regional and direction-finding (DF) charts are sold for 40 cents each, while sectional charts are 25 cents each. On orders grossing $10 or more, a 33⅓ percent discount is allowed. Copies of these charts may be obtained from the Coast and Geodetic Survey, Washington, D. C., and from recognized dealers at major cities and airports.

New Aeronautical Planning Chart of Alaska

3069a, October 1941. Scale, 1:5,000,000. Size, 20 by 39 inches. Lithographed in four colors and designed for planning flights within Alaska and between Alaska and adjacent areas, this new chart includes considerable portions of Siberia and Canada and extends southward to provide a connection with Seattle, Tacoma, and Portland. In addition to other aeronautical information, the limits of civil airways are shown and isogenic lines are indicated at five-degree intervals. An index of the eight aeronautical charts of Alaska, now available, is carried in an inset.

New Edition of Radio Direction Finding Chart

25–DF, October 1941. Sizes, 32 by 36 inches. Located in latitude 26°–40° N., longitude 87°–107° W., an area of about 850,000 square miles. Includes an accumulation of changes since the last edition.

New Editors of Regional Aeronautical Charts

9–M, September 1941. Size, 26 by 43 inches. Located in latitude 38°–44° N., longitude 78°–90° W., an area of about 250,000 square miles. Includes an accumulation of changes since the last edition.

10–M, September 1941. Size, 26 by 31 inches. Located in latitude 38°–44° N., longitude 69°–78° W., an area of about 198,000 square miles. Accumulation of changes since last edition.

New Editions of Sectionl Aeronautical Charts

Albany.—October 1941. Size, 20 by 41 inches. Located in latitude 42°–44° N., longitude 72°–78° W., an area of about 49,000 square miles. Springfield and Syracuse radio ranges realigned and an accumulation of changes since last edition.

Huntington.—October 1941. Size, 20 by 43 inches. Located in latitude 38°–40° N., longitude 78°–84° W., an area of about 51,000 square miles. Civil airways revised, Columbus radio range realigned, and danger zones added.

Recognized Dealers

The Coast and Geodetic Survey has announced the addition of the following to the list of dealers authorized to sell charts:

J. C. Hayes, Juneau, Alaska.

CIVIL AERONAUTICS BOARD

OFFICIAL ACTIONS

Abstracts of Opinions, Orders, and Regulations

FOR THE PERIOD NOVEMBER 1–15, 1941

ORDERS

ORDER No. 1353——*November 4, 1941*

Approved an amendment to a resolution of the Air Traffic Conference of America (contract C. A. B. No. 182–A) relating to the selection and employment of agents and the payment of commission thereto.

ORDER No. 1354——*November 4, 1941*

Granted American Airlines, Inc., permission to intervene in the applications of Transcontinental & Western Air, Inc., Chicago and Southern Air Lines, Inc., and Eastern Air Lines, Inc., for certificates and amendments of existing certificates of public convenience and necessity authorizing air transportation between St. Louis, Indianapolis, Terre Haute, and Detroit.

ORDER No. 1355——*November 4, 1941*

Granted Pennsylvania-Central Airlines Corporation permission to intervene in the proceeding outlined in Order, Serial No. 1354.

ORDER No. 1356——*November 4, 1941*

Granted the city of Detroit, Mich., permission to intervene in the proceeding outlined in Order, Serial No. 1354.

ORDER No. 1357——*November 4 1941*

Granted the city and county of Denver, Colo., permission to intervene in the applications of Continental Air Lines, Inc., Braniff Airways, Inc., Essair, Inc., and Transcontinental & Western Air, Inc., for certificates of public convenience and necessity, and the petitions of Fort Stockton, Alpine, and Brownwood, Tex.

ORDER No. 1358——*November 4, 1941*

Granted the city of Amarillo, Tex., permission to intervene in the proceeding outlined in Order, Serial No. 1357.

ORDER No. 1359——*November 4, 1941*

Granted the city of Fort Worth, Tex., permission to intervene in the proceeding outlined in Order, Serial No. 1357.

ORDER No. 1360——*November 4, 1941*

Granted the city of Dallas, Tex., permission to intervene in the proceeding outlined in Order, Serial No. 1357.

ORDER No. 1361——*November 4, 1941*

Granted the city of Oklahoma City, Okla., permission to intervene in the proceeding outlined in Order, Serial No. 1357.

ORDER No. 1362——*November 7, 1941*

Suspended for 90 days aircraft and aircraft engine mechanic certificate No. 1057–40, held by Warren Henry Johnson, Ontario, Calif., for inspecting and approving for recertification an aircraft which was unairworthy in violation of the Civil Air Regulations.

ORDER No. 1363——*November 7, 1941*

Suspended for 30 days student pilot certificate No. S–50604, held by Lawrence Martin Strump, Lock Haven, Pa., for piloting an aircraft acrobatically within prohibited airport limits and at a prohibited altitude, and other violations of the Civil Air Regulations.

ORDER No. 1364—— *November 7, 1941*

Suspended for 60 days private pilot certificate No. 97400–41, held by Joseph Levatino, Jersey City, N. J., for piloting an aircraft over a congested area at an altitude of less than 1,000 feet in violation of the Civil Air Regulations.

ORDER No. 1365—— *November 7, 1941*

Revoked student pilot certificate No. S–230271, held by Lawrence Dale Torpy, Omaha, Nebr., for piloting an aircraft while under the influence of intoxicating liquor and other violations of the Civil Air Regulations.

ORDER No. 1366—— *November 7, 1941*

Revoked student pilot certificate No. 196882, held by Kenneth Rice, Starke, Fla., for piloting an aircraft carrying a passenger other than a certificated instructor, and other violations of the Civil Air Regulations.

ORDER No. 1367—— *November 7, 1941*

Amended Order, Serial No. 1272, by changing the suspension period of private pilot certificate No. 44846, held by Adele Verna Schaefer, Cedar Rapids, Iowa, to 45 days.

ORDER No. 1368—— *November 7, 1941*

Suspended for 60 days private pilot certificate No. 45517–40, held by Clifford W. Hogue, for giving flying instruction without being possessed of an instructor rating and other violations of the Civil Air Regulations.

ORDER No. 1369—— *November 7, 1941*

Directed Northwest Airlines, Inc., to show cause why the use of the Minneapolis Municipal Airport for the purpose of serving St. Paul, Minn., should not be disapproved.

(Continued on page 312)

Notice

The CIVIL AERONAUTICS JOURNAL carries in this section an abstract of all orders, economic regulations, and rules, and a syllabus of all opinions issued by the Civil Aeronautics Board during the half month ending 2 weeks prior to the date of publication.

ECONOMIC OPINIONS

All opinions of the Board in economic proceedings are printed individually. They may be obtained on a subscription basis. These are "advance sheets" of the material which later will make up bound volumes of CIVIL AERONAUTICS BOARD REPORTS.

The subscription price for each volume of advance sheets of opinions is $1. Remittance should be made to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Such subscriptions are governed by the quantity of pages rather than by specific periods of time. Current subscriptions include all opinions issued since June 30, 1940, and will continue until the consecutive pagination reaches approximately 800.

NOTE.—Advance sheets of economic opinions also may be purchased individually. As each opinion becomes available in printed forms, the title of the case, docket number, order number, date, and price will be listed here. All orders must be sent to the Superintendent of Documents.

Opinions in cases of suspension, revocation, or denial of airman certificates are available in mimeograph form only. Verbatim copies of these may be obtained by addressing a request for each individual order and opinion desired to the Publications and Statistics Division, Civil Aeronautics Administration, Washington, D. C.

Status of Parts of the Civil Air Regulations and Regulations of the Administrator of Civil Aeronautics

As of Nov. 15, 1941

All persons affected by these Regulations, including those preparing for examinations for certificates may obtain required Parts of the Regulations from the Publications and Statistics Division, Civil Aeronautics Administration, Washington, D. C., without charge.

ONLY PARTS NEEDED SUPPLIED FREE

For example, *pilots* are governed in general by Parts 01., 20., 60., and 98.; *aircraft mechanics* by Parts 01., 04., 15., 18., 24., 98., and Section 60.32; and *aircraft engine mechanics* by Parts 01., 04., 13., 14., 18., 24., and 98. It should be remembered that individuals are entitled to receive free of charge only those portions of the Regulations which directly govern the activity in which they are engaged and this activity must be definitely stated when request is made.

HOW TO OBTAIN PARTS, AMENDMENTS, AND MANUALS

Those persons not affected by the Regulations, but desiring all or any part of the Regulations for other purposes, may obtain them as follows: Those Parts on which a price is listed in the tabulation below are on sale by the Superintendent of Documents, U. S. Government Printing Office (shown as G. P. O. in table), Washington, D. C., and are not available for free distribution except as stated in the first paragraph.

Eventually, all Parts will be placed on sale; meanwhile, Parts not yet on sale (carrying remark in tabulation below "order from C. A. A. only") may be obtained without charge from the C. A. A. upon demonstration of valid interest on the applicant's part.

ALL AMENDMENTS TO THE REGULATIONS, AND NOTICE OF NEW PARTS, ARE PRINTED IN THE CIVIL AERONAUTICS JOURNAL, AS RELEASED.

The tabulation below carries in the right-hand column the numbers of all effective amendments to each Part issued subsequent to its publication. Parts ordered from C. A. A. include all effective amendments, but when Parts are purchased from G. P. O. amendments must be requested separately from C. A. A.

Civil Aeronautics Manuals supplementing certain Parts with detailed interpretations of their respective provisions are issued. They are numbered the same as the Parts they supplement, and those Parts accompanied by Manuals carry appropriate notations. All Manuals are obtained from C. A. A. only, without charge.

PARTS CANCELLED AND UNASSIGNED

Cancelled Parts 00. and 03. now incorporated in Part 01.; cancelled Part 23. now incorporated in Part 51.; and cancelled Part 25. now incorporated in Part 24. Parts 90.–96., inclusive, cancelled. All other Part numbers not shown are unassigned.

Bound volumes of the complete Civil Air Regulations are no longer available. Parts and amendments are punched for filing in loose-leaf binders.

Civil Air Regulations

Part No.	Title	Date	Remarks	Price	Effective Amendments
	AIRCRAFT				
01	Airworthiness Certificates	11-1-41	In stock at C. A. A. and on sale soon at G. P. O	$0.05	
02	Type and Production Certificates	3-1-41	In stock at C. A. A. and on sale at G. P. O	.05	
04	Airplane Airworthiness (Manual 04, 2-1-41 [1])	4-1-41	In stock at C. A. A. and on sale at G. P. O	.15	116, 129.
13	Aircraft Engine Airworthiness (Manual not Issued).	8-1-41	In stock at C. A. A. and on sale at G. P. O	.05	
14	Aircraft Propeller Airworthiness (Manual 14, Out of Stock).	11-15-40	In stock; order from C. A. A. only		
15	Aircraft Equipment Airworthiness (Manual 15, Out of Stock).	11-15-40	In stock; order from C. A. A. only		
16	Aircraft Radio Equipment Airworthiness (Manual, 2-13-41) [2]	2-13-41	In stock at C. A. A. and on sale at G. P. O	.05	
18	Maintenance, Repair, and Alteration of Certificated Aircraft and of Aircraft Engines, Propellers, and Instruments. (Manual 18, Out of Stock).	6-1-41	In stock; order from C. A. A. only		
	AIRMEN				
20	Pilot Certificates	5-1-40	In stock at C. A. A. and on sale at G. P. O	.05	63, 65, 67, 75, 82, 83, 87, 88, 99, 101, 107, 110, 111, 112, 115, 117, 118, 125, 126, 127, 20-22
21	Airline Transport Pilot Rating	11-15-40	In stock; order from C. A. A. only		87, 101, 115.
22	Lighter-Than-Air Pilot Certificates	9-15-41	In stock; order from C. A. A. only		
24	Mechanic Certificates	5-1-40	In stock at C. A. A. and on sale at G. P. O	.05	44, 61, 73, 75, 87, 109.
26	Air-Traffic Control Tower Operator Certificates.	10-4-40	Out of stock; to be available soon at C. A. A. and on sale at G. P. O.	.05	87.
27	Aircraft Dispatcher Certificates	7-15-40	In stock at C. A. A. and on sale at G. P. O	.05	74, 75, 87.
	AIR CARRIERS				
40	Air Carrier Operating Certification	11-1-40	In stock at C. A. A. and on sale at G. P. O	.05	85, 89, 102, 129, 133.
	AIR AGENCIES				
50	Flying School Rating (Manual 50, 12-40 [3])	11-1-40	In stock at C. A. A. and on sale at G. P. O	.05	87, 113.
51	Ground Instructor Rating	5-1-40	In stock at C. A. A. and on sale at G. P. O	.05	75, 87, 128.
52	Repair Station Rating (Manual 52, 2-41)	5-1-40	In stock at C. A. A. and on sale at G. P. O	.05	75, 84, 87.
53	Mechanic School Rating (Manual 53, 5-40)	9-15-40	In stock at C. A. A. and on sale at G. P. O	.05	75, 87.
	AIR NAVIGATION				
60	Air Traffic Rules (Manual 60; Part 1, 12-1-40; Part 2, 8-1-40; Part 3, 12-1-40).	10-4-40	In stock at C. A. A. and on sale at G. P. O	.10	80, 90, 93, 102, 104, 106, 108, 114, 119, 120, 121, 123, 124, 127, 135, 60-21, 60-22, 60-23, 60-24, Spec. Reg. Ser. 177.
61	Scheduled Air Carrier Rules	1-1-41	In stock at C. A. A. and on sale at G. P. O	.05	91, 94, 97, 102, 115, 120, 122, 129, 130, 132, 134, 61-17, 61-18, Spec. Reg. Ser. 182, 188, 192.
	MISCELLANEOUS				
98	Definitions	11-15-40	Out of stock; to be available soon at C. A. A.		
99	Mode of Citation of Regulations	11-15-40	In stock; order from C. A. A. only		

Regulations of the Administrator

501	Aircraft Registration Certificates	11-1-41	In stock; order from C. A. A. only		
510	General Regulations, Washington National Airport.	9-26-41	In stock; order from C. A. A. only		
511	General Aeronautical Rules for the Washington National Airport.	9-26-41	In stock; order from C. A. A. only		
525	Notice of Construction or Alteration of Structures on or Near Civil Airways.	11-1-41	In stock; order from C. A. A. only		

[1] Amendment as issued by C. & I. Div. Release 50, 6-3-41.
[2] Amendment No. 1 issued as S. R. Release No. 62, 8-12-41.
[3] Amendment 4-14-41 issued as C. & I. Div. Release No. 45.

ORDER No. 1370—*November 7, 1941*

Ordered that no further action be taken against student pilot certificate No. S–249237, held by Robert B. Brown, Irwin, Pa., pending the further order of the Board subsequent to a public hearing.

ORDER No. 1371—*November 12, 1941*

Temporarily exempted Pan American Airways, Inc., from the provisions of section 401 of the Civil Aeronautics Act of 1938, as amended, insofar as the provisions of said section would otherwise prohibit Pan American Airways, Inc., from engaging in air transportation of persons, property, and mail to and from Galena, Alaska, as an intermediate point between Fairbanks and Nome, Alaska.

ORDER No. 1372—*November 12, 1941*

Authorized the holding of interlocking relationships contained in the applications of Roland Palmedo and American Export Airlines, Inc.

ORDER No. 1373—*November 12, 1941*

Granted the City of Laredo, Tex., permission to intervene in the proceeding outlined in Order, Serial No. 1357.

ORDER No. 1374—*November 14, 1941*

Suspended for 3 months commercial pilot certificate No. 16620, held by Preston H. Mabry, Arlington, Va., for piloting an aircraft within the boundaries of an airspace reservation within the city of Washington, D. C., in violation of the Civil Air Regulations.

ORDER No. 1375—*November 14, 1941*

Revoked private pilot certificate No. 59779–41, held by Joe B. Morgan, Marietta, Okla., for piloting an aircraft at an altitude of less than 1,000 feet and other violations of the Civil Air Regulations.

ORDER No. 1376—*November 14, 1941*

Revoked student pilot certificate No. S–167124, held by Harry Erling Ljung, Van Nuys, Calif., for carrying passengers other than certificated instructors and other violations of the Civil Air Regulations.

ORDER No. 1377—*November 14, 1941*

Granted Eastern Air Lines, Inc., permission to inaugurate service to Baltimore, Md., through the use of the Baltimore Municipal Airport on November 15.

ORDER No. 1378—*November 14, 1941*

Granted Pennsylvania-Central Airlines Corporation, permission to inaugurate service to Baltimore Md., through the use of the Baltimore Municipal Airport on November 15.

ORDER No. 1379—*November 14, 1941*

Granted American Airlines, Inc., permission to inaugurate service to Baltimore, Md., through the use of the Baltimore Municipal Airport on November 16.

REGULATIONS

NOTE.—*The Civil Aeronautics Board has issued a correction on Amendment No. 60–22 of the Civil Air Regulations, which was adopted October 28, 1941. As originally issued, the amendment provided for changes in three sections of Part 60 of the CAR, but these changes were grouped under the single amendment designation. The correction, however, divides the changes into three amendments, as follows: Amendment 60–22, Control Zones of Intersection Designation; Amendment 60–23, 60.2401 Green Civil Airway No. 2 Airway Traffic Control Areas (Seattle, Wash., to Boston, Mass.; and Amendment 60–24, 60.24300 Blue Civil Airway No. 1 Airway Traffic Control Areas (Pendleton, Oreg., to Spokane, Wash.) The full text of these amendments, which were not changed in substance by the change in designations, was carried in the last issue of the* CIVIL AERONAUTICS JOURNAL.

REGULATION No. 195—*November 6, 1941*

Adopted a regulation restricting aircraft operations within 3 miles of Martin Airport, Baltimore, Md., on November 8 during launching of Navy's new flying boat MARS.

AMENDMENT No. 20–22—*Nov. 14, 1941*

Effective Dec. 1, 1941:

"*20.124—Physical condition.* Same as in § 20.104."

ORDER No. 1380—*November 14, 1941*

Adopted an order fixing and determining the fair and reasonable rates of compensation for the transportation of mail by Chicago and Southern Air Lines, Inc., over routes No. 8 and 53. (Opinion and order—docket No. 333)

ORDER No. 1381—*November 15, 1941*

Temporarily exempted Pan American Airways Co. from the provisions of section 401 (a) of the Civil Aeronautics Act of 1938, as amended, insofar as such provisions would otherwise prohibit Pan American Airways Co. from engaging in air transportation between Lisbon, Portugal, and New York, N. Y., via Bolama, Portuguese Guinea; Natal, Brazil; Belem, Brazil; Port of Spain, Trinidad; and Hamilton, Bermuda, during the period from November 15, 1941, to May 1, 1942.

ORDER No. 1382—*November 14, 1941*

Reopened proceeding in the matter of the petition of Braniff Airways, Inc., for an order fixing and determining fair and reasonable rates of compensation for the transportation of mail over routes No. 9, 15 and 50, and denied its request for a temporary order extending the approval of the second round trip schedule between Amarillo and Oklahoma City from November 1, 1941.

150th Anniversary of The Bill of Rights

December 15, 1941

Freedom of speech
Freedom of press
Freedom of religion
Freedom of assembly
Equal justice to all

A Notable Heritage and A Sacred Trust

The American Bill of Rights was ratified on December 15, 1791. The Sesquicentennial Anniversary is celebrated throughout the nation in accordance with a Joint Resolution of Congress and a Proclamation of the President.

—Keep 'Em Flying—

Accident Reports

(*Continued from page 307*)

Stall Proves Fatal

Frank E. Jordan was fatally injured in an accident which occurred 7 miles northeast of Wichita, Kans., on February 5, 1941. Jordan was a commercial pilot with 1 Land and Instructor ratings who had accumulated approximately 600 hours of flying time. Ralph Gaston, a student pilot who had logged a total of approximately 50 hours solo flying time, was seriously injured.

The pilot, accompanied by the student, took off from the Rawdon Brothers Airport, Wichita, Kans., about 8:30 a. m., for the purpose of checking the student, who was shortly to take a test for a private pilot certificate. Various maneuvers, including three simulated forced landings, were practiced for nearly an hour. The student stated that the pilot then said he would demonstrate a 360-degree forced landing approach. From an altitude of approximately 600 feet, the approach proceeded until the aircraft, in a left bank, had completed about three-fourths of a circle. The aircraft, then about 50 feet from the ground, was approaching a stalled condition, and the instructor applied power in an attempt to gain speed. However, the aircraft did stall and immediately fell to the ground, striking on its left wing and nose.

U. S. GOVERNMENT PRINTING OFFICE: 1941

VIVIAN

MAIDEN

EDITION